Driving Report Generation: Saving Time with Excel Macros

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Why Use Macros?

- NSSE's experience: "Necessity is the mother…"
- In the I.R. shop: Report generation
  - for different departments
  - annual, quarterly, monthly updates
- Context: Running same basic reports (template) repeated times (periodically, or for different entities).
- Variables stay the same for the most part, data changes.

Goals

- To show how we create and utilize Macros in MS Excel, a valuable tool for increasing efficiency and accuracy in report production
- To demonstrate what CAN be done, and provide additional resources that will help you learn HOW.
- By the way, we're not expert code writers … most can do this.

Outline

- Excel Macro basics
- Demonstration:
  - Report Generator
  - Report Checker
  - Looping Applications
- Questions/Discussion

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XLVB "Basics"

- Excel (XL) Macros
  - Recording
  - Demonstrate on simple table
  - Creating a control button
- Discovering Visual Basic (VB) beneath XL
  - VB is the code the runs XL
  - Basic elements of VB windows
  - Basic code structure

Hypothetical Reporting Situation

- Upcoming campus-wide meeting
- Meeting will focus on results from a student feedback form
- Need to generate individual reports for each department, with comparative information from College and University respondents

Application #1 – Report Generator

- Report output is often produced via SPSS, SAS or some other statistical package
- The final reports are seldom produced using the same platform as the one that generated the output
- Visual Basic macros can be used to draw raw output into a formatted Excel template.
- Macros can also automate tedious tasks such as printing and saving reports

Application #1 – Macros

- **Button 1: Get Dept**
  - After entering department number, fetches the department and college information and places it in the control panel
  - Saves the Template (so you know which was the last report your generated)
- **Button 2: Get Output**
  - Finds the saved data file for the department, opens it, copies the data
  - Pastes the data into the template, closes the data file
- **Button 3: Print Report**
  - Selects report page(s) and prints it
- **Button 4: Save Report**
  - Saves data in template (removes formulas)
  - Deletes control and data pages
  - Saves Report out to appropriate folder

Application #2 – Report Checker

- "Double-blind" checks of report output are always a good idea
- Manual checks are time intensive and subject to fatigue-based error
- Is not feasible to check every number in every report manually
- Automated, electronic checks of reports provide a reliable way to save substantially staff time and effort

Application #2 – Macros

- **Button 1: Get Checksheet**
  - Finds the checksheet for the department, opens it, copies the data
  - Pastes the data into the template, closes the checksheet
- **Button 2: Get Report**
  - Finds the saved report for the department, opens it, copies the data
  - Pastes the data into the template, closes the report
- **Button 3: Make Static**
  - Checker application has cell formulae that need to be changed into values, otherwise when you save pages out the values don't remain
- **Button 4 : Run Checker**
  - Counts how many errors were found on a "match" page
  - If there are places where checksheet and report do not match, it saves out a report that shows which questions/responses have different values

Application #3 – Looping

- IR offices are rarely asked to produce just one report
- Standard reports are generally produced for each department/college at an institution
- It is useful to be able to "loop" an application, where a generic template is populated for each applicable entity
- Looping an application represents a HUGE saving in time

Summary

- Increased efficiency in the report production process can reap tremendous dividends for an IR office.
- Microsoft Excel Visual Basic macros represent a valuable addition to existing reporting processes
- XLVB macros have several powerful, practical applications in an IR office
- XLVB basics are straightforward to learn

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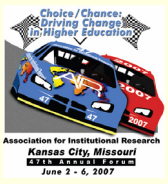

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